Site Summary for Bond and Bond (EPA ID NAV 046)
Shiprock, New Mexico

Problem Statement

Technical Assistance Needed: Evaluate if there is a need for remedial action based on risk and contamination present.

BACKGROUND: In 1991 three USTs were removed from the site, at which point, soil was found to be contaminated. Tank notification documents indicate the tanks were installed in approximately 1979, and were filled with gasoline. In 1992 a used oil UST was removed from the site. The age the UST is unknown and the UST removal report is not in EPA records. The 1993 Spill Investigation Report indicates that the used oil UST contained trace chlorinated solvents. In 1993 14 test borings and 8 monitoring wells were installed at the site. Soil was found to be contaminated with benzene, GRO, and DRO from depths 5-15 ft bgs, and groundwater was found to be contaminated with benzene, DRO, and GRO above applicable standards. In 2003 a groundwater sampling event indicated that concentrations in all wells were below EPA MCL for BETX and above MCL levels for naphthalene. In 2005 an additional groundwater monitoring well was installed which was found to contain ethylbenzene above the MCL and NAPL was found in one additional well. In 2008 seventeen additional soil borings were installed and 9 were completed as new monitoring wells, then 6 soil borings were installed and 2 were completed as monitoring wells. From 2008-2010 semi-annual groundwater sampling was conducted at the site, during this time elevated levels of DRO, GRO, and benzene occurred in groundwater, and NAPL was found in two wells. In 2010 trench test pits were placed where the former 3 gasoline USTs were removed and where the former waste oil UST was removed. Results of these pits indicated that soil was only contaminated in the saturated zone. In 2011 5 oxygen emitters were installed in 5 monitoring wells at the site, including the wells with free product, to encourage bioremediation of groundwater. During the 2011 sampling event benzene was no longer found over the MCL in groundwater; however, DRO and GRO were still present in groundwater. A groundwater sampling event was conducted in February 2012; however, the report has not been completed.

CURRENT ISSUES: NAPL is present in two monitoring wells (MW-1 and MW-10), which are separated by two wells in gradient direction that do not contain NAPL. The DRO and GRO plume has been delineated; however, a determination needs to be made it if a remedial action is necessary at the site based on risk.

SITE LOCATION: The site is located on the north side of U.S. Highway 64 in Shiprock, New Mexico, one-quarter of a mile southwest of the intersection of U.S. Highways 64 and 491. The site and contamination is located on Navajo Nation land.

Navajo Environmental Contact/Agency: Navajo Nation Environmental Protection Agency; Mr. Henry Haven (928-871-7997);hhavenjr@hotmail.com; Window Rock Blvd., Bldg. W008090, Window Rock, AZ 86515

PERVIOUS SITE INVESTIGAIONS: A 1993 Spill Investigation was conducted at the site and no further work was completed until 2003 when a supplemental site investigation and groundwater sampling event was occurred. In 2005 a groundwater sampling event was conducted and an additional monitoring well was installed; however, this report cannot be located. In 2008 two sampling events and 11 monitoring wells were installed, and the results were submitted in a 2009 Technical Memo by Bristol. The 2009 Tech Memo also mentions the planned installation of an AS/SVE system at the site; however, this is not mentioned in any other reports, and it appears the design of this system was never completed. A report for 2009 sampling events could not be located, but the sampling did occur. In 2010 a trench excavation occurred at the former gasoline UST site and used oil UST site, along with a semi-annual sampling event, and is reported in the June 2011 Technical Memo. In 2011 5 oxygen emitters and a groundwater sampling event occurred, which is documented in a September 2011 Technical Memo. Lab results of the February 2012 sampling event have been submitted, but the report is not completed.

CONTAMINATES OF CONCERN: Contamination exists approximately 9-12 ft bgs at groundwater. Based on the most recent sampling results dissolved VOCs do not exist at the site above MCLs. GRO organics are only present at one well, MW-9. DRO are present in MW-7, 8, 9, 11, and 15. DRO and GRO plumes have been delineated. NAPL is present in two wells MW-1 and MW-10 to a maximum thickness of 0.66 ft. Soil contamination is present in the saturated zone.

GROUNDWATER: Groundwater is approximately 7-12 ft bgs and flows towards the San Juan River to the west, southwest.

SITE GEOLOGY: The site is located within the Colorado Plateau physiographic providence in the Four Corners Platform west of the San Juan Basin. The geomorphology of the site is classified as alluvial fans, flood plains, and ephemeral streams with in the San Juan River Basin. According to boring logs, the subsurface of the site is characterized by poorly to well graded sand in the lenses of fat clay and clayey sand underlain by gravel.

POTENTIAL RECEPTORS: Potential receptors include the San Juan River that is located within 500 ft down-gradient of the site. A hardware and video store are located onsite. A BIA site, and elementary school located within 500 ft, and trailer home located to the west of the site. In addition, one municipal well could be located within 0.2 miles down-gradient of the site; however, it is unknown if this well is currently in use, and two other wells are within 0.5 miles of the site.